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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,205	02/24/2004	David Forehand	MEM 2657002	8842

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EXAMINER

ROJAS, BERNARD

ART UNIT PAPER NUMBER

2832

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/785,205	Applicant(s) FOREHAND	
	Examiner Bernard Rojas	Art Unit 2832	

-- Th MAILING DATE of this communication app ars on th cov r she t with th corr spond nc addr ss --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.  
 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.  
 4a) Of the above claim(s) 7-16, 19-23 and 31-37 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-6, 17, 18, 24-30 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 04/19/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the tether prevents the distal end of the conductive beam from moving in an upward direction without preventing movement of the conductive beam in other directions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 1 merely states that at least one tether, wherein the at least one tether is at least configured to be attached to the substrate and attached to the conductive beam. Ma [US 6,529,093] and Nelson [US 6,529,093] disclose the use of an anchor/tether attached to both a substrate and a conductive beam]. These anchor/tether's allow the limited movement of the conductive beam. Although Applicant states that a mechanical post equivalent to the anchor of Ma and Nelson are disclosed in the specification, it is not claimed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 17, 18, 24-26 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma [US 6,529,093].

Claim 1, Ma discloses a microscopic switch, comprising: a substrate [515], wherein the substrate is at least configured to support the switch; a conductive beam [503], wherein the conductive beam is at least configured to be suspended with one free end; means for engaging [507], wherein the means for engaging at least engages the conductive beam to allow signal transmission [signal line 505]; and at least one tether [513], wherein the at least one tether is at least configured to be attached to the substrate and attached to the conductive beam [figure 5].

Claim 2, Ma discloses that the apparatus further comprises means for insulation [511], wherein the means for insulation at least provides a non-conductive barrier between the conductive beam and at least one electrode when the microscope switch is engaged [figure 5C].

Claim 6, Ma discloses that the apparatus further comprises an ohmic contact when the microscopic switch is engaged [figures 5C, 503 is connected to 505 through 509].

Claims 17 and 18, the method steps of operating the microscopic switch are inherent in the product structure as previously described for claims 1 and 2

Claim 24, Ma discloses a cantilever MEMS switch comprising a tether [513] having at least two ends, wherein a first end of the tether is at least coupled to a substrate, and wherein, a second end of the tether is at least coupled to the a cantilever arm [figure 5A].

Claim 25, Ma discloses that the substrate is at least configured to be non-conductive [col. 3 lines 40-46].

Claim 26, Ma discloses that the apparatus further comprises means for insulation [511], wherein the means for insulation at least provides a non-conductive barrier when the microscope switch is engaged [figure 5C].

Claim 30, Ma discloses that the apparatus further comprises an ohmic contact when the microscopic switch is engaged [figures 5C, 503 is connected to 505 through 509].

Claims 1-3 and 24-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson [US 6,529,093].

Claim 1, Nelson discloses a microscopic switch, comprising: a substrate [22], wherein the substrate is at least configured to support the switch; a conductive beam [32], wherein the conductive beam is at least configured to be suspended with one free end; means for engaging [24, 26 and 28], wherein the means for engaging at least engages the conductive beam to allow signal transmission [signal line 28]; and at least one tether [support section above 34], wherein the at least one tether is at least

configured to be attached to the substrate and attached to the conductive beam [figure 5].

Claim 2, Nelson discloses that the apparatus further comprises means for insulation [air gap between the electrodes 24 and 26 and the conductive beam 32], wherein the means for insulation at least provides a non-conductive barrier between the conductive beam and at least one electrode when the microscope switch is engaged [figure 5a].

Claim 3, Nelson discloses that the means for insulation further comprise air [figure 5a].

Claim 24, Nelson discloses a cantilever MEMS switch comprising a tether [support section above 34] having at least two ends, wherein a first end of the tether is at least coupled to a substrate, and wherein, a second end of the tether is at least coupled to the a cantilever arm [figure 3].

Claim 25, Nelson discloses that the substrate is at least configured to be non-conductive [col. 6 lines 35-46].

Claim 26, Nelson discloses that the apparatus further comprises means for insulation [air gap between the electrodes 24 and 26 and the conductive beam 32], wherein the means for insulation at least provides a non-conductive barrier when the microscope switch is engaged [figure 5a].

Claim 27, Nelson discloses that the means for insulation further comprise air [figure 5a].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma [US 6,529,093] in view of DeReus [US 6,876,482].

Claims 4 and 28, Ma discloses the claimed invention except that the insulation comprises Silicon Oxide.

DeReus discloses that Silicon Oxide is a dielectric material [col. 8 lines 45-60].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Silicon Oxide as the dielectric material, since applicant has not disclosed that using Silicon Oxide solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any dielectric as is disclosed by Ma.

Claims 5 and 29, Ma discloses the claimed invention except that the insulation comprises Silicon Nitride.

DeReus discloses that Silicon Nitride is a dielectric material [col. 8 lines 45-60].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Silicon Nitride as the dielectric material, since applicant has not disclosed that using Silicon Nitride solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any dielectric as is disclosed by Ma.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Bernard R. Rabin*  
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SUPERVISORY PATENT EXAMINER  
07 JULY 06